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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/894,138	06/29/2001	Martin Roth	420AS/49910	5748

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EXAMINER

DINH, TIEN QUANG

ART UNIT PAPER NUMBER

3644

DATE MAILED: 06/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary

Application No.

09/894,138

Applicant(s)

ROTH ET AL.

Examiner

Tien Dinh

Art Unit

3644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-68 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-68 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-68 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

It is not understood how the spring acts as a rotating drive unit to exert a force in the axial direction to rotate the nut and linearly move the spindle. How does this convert the rotational motion into a translational motion? How is this possible? By merely pre-tensioning the spindle does not allow the spindle to rotate the nut. Does the spring 32 act to produce a torsional effect on the spindle instead of an axial pre-tensioning? Furthermore, it is not understood how the combination of the nut driven by the motors 2 and the spring device 32 can act in combination as shown in figure 1 can cause the spindle to be dispatched to release the solar panels. Please explain. Could this be a translation error?

In claims 30-36 and 59, it is not understood how the mountings are tiltable. How is this possible?

The above list is merely exemplary. Therefore, Applicant should review the claims in their entirety for compliance with 35 U.S.C. 112.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-3, 11, 16-18, 23-25, 29-31, 36-38, 43-49, 54-62, 66, and 67 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is not understood in claims 1, 37, 48, and 66 what "connected rotatably fixed" mean. How could something be connected and fixedly rotatable at the same time? Is this a contradiction?

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 11, 16, and 60, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Stanley.

Stanley discloses a linear operating device having an assembly for converting a rotational motion into a translational motion. The assembly has a nut 44, rotating drive unit 108 that is a motor that is "rotatably fixed to the nut", spindle 12A, and rollers 36. The method claims are met by the apparatus of Stanley.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17, 18, 23-25, and 29, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley in view of Madey.

Stanley discloses all claimed parts of the invention except for the nut having a first lock device (a projection) and a complementary lock device to hold the nut in place. However, Madey discloses a nut having a first lock device/projection and a complementary device 176, 174 to hold the nut in place are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have attached a locking device on a nut and a complementary lock device in Stanley's system as taught by Madey to lock the nut in place to prevent accidental activation.

Claims 30, 31, and 36, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley as modified by Madey as applied to claims 1 and 2 above, and further in view of Schonfield.

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Stanley as modified by Madey discloses all claimed parts of the invention except for the mountings being tiltable. However, Schonfield discloses that mountings (see figure 4) that are tiltable are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used tiltable mountings in Stanley's system as modified by Madey and as taught by Schonfield to allow easier release of the solar panels.

Claim 3, as best understood, is rejected under 35 U.S.C. 103(a) as being unpatentable over Stanley in view of Hansen.

Stanley discloses all claimed parts of the invention except for the nut being connected to a rotating drive unit that is a spring. However, Hansen discloses that a spring element which acts as a motor/rotating drive unit are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used a spring element/rotating drive unit Stanley's system as taught by Hansen to regulate the movement of the spindle.

Claims 4-10, 12-15, 37-43, 46-54, 57, 58, and 60-68, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth et al in view of Stanley:

Roth et al. discloses solar panel release device having a spindle 3 that is pre-tensioned (by a spring/elastic element, next to the part 13, see figure 1) in the axial direction of the spindle on an area of the spindle, which acts in conjunction with the nut,

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which has threads 33. Roth et al lacks having nuts that is "rotatably attached" to the spindle and having rollers and a motor that are rotatably fixedly connected to the nut. However, Stanley discloses a system having nuts 44 with rollers 36 that are rotatably attached to the spindle 12A and motor means that are rotatably fixedly connected to the nut to move the spindle in one direction are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used nuts with rollers and made the nuts be "rotatably attached" to the spindle and motor means that are rotatably fixedly connected to the nut in Roth et al's system as taught by Stanley to allow the safe release of the solar panels.

Claims 19-22, 26-28, 44, 45, 55, and 56, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth et al as modified by Stanley as applied to claims 5, 1, 8, above, and further in view of Madey.

Roth et al as modified by Stanley discloses all claimed parts of the invention except for the first locks on the nut and a complementary lock device to hold the nut in place. However, Madey discloses a nut having a first lock device/projection and a complementary device 176, 174 to hold the nut in place are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have attached a locking device on a nut and a complementary lock device in Roth et al's system as modified by Stanley and as taught by Madey to lock the nut in place to prevent accidental activation.

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Claims 32-35 and 59, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Roth et al as modified by Stanley as applied to claims 5, 6, 4, 8, 58, 57, 48 above, and further in view of Schonfield.

Roth et al as modified by Stanley discloses all claimed parts of the invention except for the mountings being tiltable. However, Schonfield discloses that mountings (see figure 4) that are tiltable are well known in the art.

It would have been obvious to one skilled in the art at the time the invention was made to have used tiltable mountings in Roth et al's system as modified by Stanley and as taught by Schonfield to allow greater freedom of movement to release of the solar panels.

Response to Arguments

The Examiner would like to thank the applicant for his explanation during the personal interview. However, the Examiner maintains the rejection of the previous claims since the disclosure is not written in a full, clear, concise manner as to the manner and process of making and using the invention. The terms "rotatably fixed" cause great confusion and the specification fails to explain these terms in a clear manner to one skilled in the art. Furthermore, the disclosure causes great confusion to one skilled in the art when reading the specification. Furthermore, the claims are anticipated by Stanley, Roth et al, etc. since these arts disclose a system that has a rotating drive unit that is connected rotatably fixed to the nut. Stanley discloses the drive unit 108 that is connected rotatably fixed to the nut 44 via gears (see figure 5).

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it would have been obvious to have used a system having nuts that is rotatably attached to the spindle and having rollers and a motor that are rotatably fixedly connected to the nut; locking devices; and tiltable mountings in Roth system as taught by Stanley, Madey, and Schonfield to allow the deployed system to tilt to accomplish its missions, prevent accidental activation and to safely release the system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tien Dinh whose telephone number is 703-308-2789. The examiner can normally be reached on 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Jordan can be reached on 703-306-4159. The fax phone numbers for the organization where this application or proceeding is assigned are 703-306-4195 for regular communications and 703-306-4195 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-4195.

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June 6, 2003

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